03050203-080

(North Fork Edisto River)

General Description

Watershed 03050203-080 is located in Orangeburg County and consists primarily of the lowest reach of the ***North Fork Edisto River*** and its tributaries from Caw Caw Swamp to its confluence with the South Fork Edisto River. The watershed occupies 49,833 acres of the Lower Coastal Plain region of South Carolina. The predominant soil types consist of an association of the Johnston-Goldsboro-Noboco-Meggett-Dorovan series. The erodibility of the soil (K) averages 0.17 and the slope of the terrain averages 2%, with a range of 0-6%. Land use/land cover in the watershed includes: 33.7% agricultural land, 31.7% forested land, 22.8% forested wetland (swamp), 7.1% urban land, 3.8% barren land, 0.7% water, and 0.2% nonforested wetland (marsh).

This section of the North Fork Edisto River originates at the City of Orangeburg, and accepts drainage from Pen Branch, Anderson Branch, Whirlwind Creek, Dry Swamp, and Cooper Swamp before merging with the South Fork Edisto River. Whirlwind Creek flows through a 40 acre-lake used for water supply and as a county fish hatchery. There are a total of 75.7 stream miles and 210.5 acres of lake waters in this watershed, all classified FW. As a reach of the North Fork Edisto River, this watershed accepts the drainage of all streams entering the river upstream of the watershed.

Surface Water Quality

Station #	Type	Class	Description
E-007	P/W	FW	North Fork Edisto River at US 601 at Orangeburg
E-007A	S/W	FW	N. Fork Edisto River at Power line crossing, 2 mi below E-007
E-007B	S/W	FW	North Fork Edisto River, 4 miles below E-007 at a cabin
E-007C	P/W	FW	N. Fork Edisto River at Policeman camp, 6 miles below E-007
E-008	P/W/BIO	FW	North Fork Edisto River at S-38-39, WSW of Rowesville
E-008A	W/INT	FW	North Fork Edisto River at S-38-63

North Fork Edisto River - There are six SCDHEC monitoring sites along this section of the North Fork Edisto River. At the furthest upstream site **(E-007)**, aquatic life uses are not supported due to pH excursions. There is a significant decreasing trend in pH. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported at this site.

At the next site downstream **(E-007A)**, aquatic life uses are fully supported. P,P'DDE (a metabolite of P,P'DDT) was detected in the 1997 and 1999 sediment samples, and P,P'DDD (another metabolite of P,P'DDT) was detected in the 1999 sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentration.

Further downstream **(E-007B)**, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Prior to 2001, this was a

secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. At the next site downstream **(E-007C)**, aquatic life uses are not supported due to pH excursions. There is a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported at this site.

At **E-008**, aquatic life uses are fully supported based on macroinvertebrate community data. A very high concentration of lead was measured in the 1997 sediment sample. Also in sediment, P,P'DDE was detected in 1998 and PCB-1242 was detected in 1999. Although the use of DDT was banned in 1973 and the manufacture and use of PCBs was banned in 1979, they are very persistent in the environment. Significant increasing trends in dissolved oxygen concentration and significant decreasing trends in five-day biochemical oxygen demand suggest improving conditions for these parameters. Recreational uses are fully supported at this site. At the furthest downstream site **(E-008A)**, aquatic life and recreational uses are fully supported.

This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentrations. Although pH excursions were noted at each of these stations, they were typical of values seen in such systems; however, the decreasing trends in pH at E-007 and E-007C suggest changing conditions for those portions of the stream.

A fish consumption advisory has been issued by the Department for mercury and includes a stream within this watershed (see advisory p.38).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-044	GB	MIDDENDORF	ORANGEBURG FISH HATCHERY (1)
AMB-101	GB	TERTIARY LIMESTONE	ORANGEBURG FISH HATCHERY (2)

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
NORTH FORK EDISTO RIVER ALBEMARLE CORP./ORANGEBURG PIPE #: 001 FLOW: 1.057	SC0001180 MAJOR INDUSTRIAL
NORTH FORK EDISTO RIVER CITY OF ORANGEBURG WWTP PIPE #: 001 FLOW: 9.000	SC0024481 MAJOR DOMESTIC
NORTH FORK EDISTO RIVER CITY OF ORANGEBURG/PEARSON WTP PIPE #: 001 FLOW: 0.35	SCG641002 MINOR DOMESTIC

NORTH FORK EDISTO RIVER SOUTHSIDE ASSOCIATES PIPE #: 001 FLOW: 0.03	SC0029751 MINOR DOMESTIC
NORTH FORK EDISTO RIVER VELCOREX INC. PIPE #: 001 FLOW: 1.14	SC0043419 MAJOR INDUSTRIAL
NORTH FORK EDISTO RIVER COUNCIL ENERGY PIPE #: 001, 002 FLOW: M/R	SC0045560 MINOR INDUSTRIAL
DITCH TO NORTH FORK EDISTO RIVER ORANGEBURG NATIONAL FISH HATCHERY PIPE #: 001 FLOW: M/R	SCG130009 MINOR INDUSTRIAL
DITCH TO NORTH FORK EDISTO RIVER ORANGEBURG NATIONAL FISH HATCHERY PIPE #: 002 FLOW: M/R	SCG130008 MINOR INDUSTRIAL
WHIRLWIND CREEK TRIBUTARY EDISTO HIGH SCHOOL PIPE #: 001 FLOW: 0.017	SC0040185 MINOR DOMESTIC TO BE ELIMINATED

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM ***FACILITY NAME***	***ND#*** ***TYPE***
APPLICATION TO POND ORANGEBURG SAUSAGE CO.	ND0080730 INDUSTRIAL

Water Quantity

WATER USER ***WATERBODY***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
ORANGEBURG DPU NORTH FORK EDISTO RIVER	44.5 56.5

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Town of Cordova and portions of the Town of Edisto and the City of Orangeburg. The western portion of the City of Orangeburg is located in this watershed and U.S. 601 connects it to the Towns of Bamberg and St. Matthews. The U.S. 21 corridor runs from Orangeburg to the Town of Rowesville and is paralleled by a rail line.